

Large sponges may be reattached to coral reefs

April 27 2009

April 27, 2009 - A new study appearing in *Restoration Ecology* describes a novel technique for reattaching large sponges that have been dislodged from coral reefs. The findings could be generally applied to the restoration of other large sponge species removed by human activities or storm events.

20 specimens of the Caribbean giant barrel sponge were removed and reattached at Conch Reef off of Key Largo, Florida in 2004 and 2005 at depths of 15m and 30m. The [sponges](#) were affixed to the reef using sponge holders consisting of polyvinyl chloride piping, which was anchored in a concrete block that was set on a plastic mesh base.

Though the test area endured four hurricanes during the study period, 62.5 percent of sponges survived at least 2.3-3 years and 90 percent of the sponges attached in deep water locations survived. The sponges reattached to the reef after being held stationary by sponge holders for as little as 6 months.

Large sponges may be damaged by a variety of natural events and human activities including severe storms, vessel groundings and the cutting movements of chain or rope moved along with debris by strong currents. After these events, detached large sponges are commonly found, still alive and intact, between reef spurs on sand or rubble where they slowly erode under the action of oscillating currents.

"The worldwide decline of [coral reef ecosystems](#) has prompted many

local restoration efforts, which typically focus on reattachment of reef-building corals," says Professor Joseph Pawlik of the University of North Carolina-Wilmington, co-author of the study. "Despite their dominance on [coral reefs](#), large sponges are generally excluded from restoration efforts because of a lack of suitable methods for sponge reattachment."

These sponges, which often exceed reef-building corals in abundance, can be more than 1m in diameter and may be hundreds or thousands of years old. The success of past attempts at reattaching sponges, which used cement or epoxy, has been limited because adhesives do not bind to sponge tissue. When damaged or dislodged, large sponges usually die because they are unable to reattach to the reef. The results of the study show that these sponges have the ability to reattach to the reef if they can be properly secured.

More information: www.blackwell-synergy.com/loi/rec

Source: Wiley ([news](#) : [web](#))

Citation: Large sponges may be reattached to coral reefs (2009, April 27) retrieved 13 June 2024 from <https://phys.org/news/2009-04-large-sponges-reattached-coral-reefs.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--